

Chapter 4

IMPLEMENTATION

Introduction

A program of implementation to protect beneficial uses and to achieve water quality objectives is an integral component of this Basin Plan. The program of implementation is required to include, but is not limited to:

- A description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private.
- A time schedule for the actions to be taken.
- A description of surveillance to be undertaken to determine compliance with objectives.
(CA Water Code § 13242)

The surveillance activities needed to determine compliance with objectives are described in Chapter 6, "Monitoring and Assessment." The remaining requirements are fulfilled by this Chapter.

This Chapter includes discussions of general control actions and related issues, a description of the Region's Nonpoint Source Program, and discussions of specific types of activities and their related water quality problems, control actions and time schedules for the actions to be taken. Control actions specific to the Lake Tahoe Basin are included in Chapter 5 of this Plan. Detailed descriptions of waterbodies with their specific water quality problems and recommended control actions are included in the Region's Water Quality Assessment database and Fact Sheets.

General Control Actions and Related Issues

The Regional Board regulates the sources of water quality related problems which could result in actual, or potential, impairments of beneficial uses or degradations of water quality. The Regional Board regulates both point and nonpoint source discharge activities. A point source discharge generally originates from a single, identifiable source, while a nonpoint source discharge comes from diffuse

sources. To regulate the point and nonpoint sources, control actions are required for effective water quality protection and management. Such control actions are set forth for implementation by the State Board, by other agencies with water quality or related authority, and by the Regional Board.

Control Actions under State Board Authority

The State Board has adopted several statewide or areawide water quality plans and policies which complement or may supersede portions of this Basin Plan. These plans and policies may include specific control measures. Some State Board plans and policies do not affect waters of the Lahontan Region. See Chapter 6, "Plans and Policies," for summaries of the most significant State Board plans and policies which do affect the Lahontan Region.

Control Actions to be Implemented by Other Agencies with Water Quality or Related Authority

Water quality management plans prepared under Section 208 of the Federal Water Pollution Control Act (Clean Water Act) have been completed by various public agencies. These Section 208 plans, as well as other plans adopted by federal, state, and local agencies, may affect the Regional Board's water quality management and control activities. A summary of relevant water quality management plans is included in Chapter 6, "Plans and Policies." The Regional Board can also be party to official agreements with other agencies, such as memorandum of understandings (MOUs) or management agency agreements (MAAs), which recognize and rely on the water quality authority of other agencies.

Control Actions under Regional Board Authority

Control measures implemented by the Regional Board must provide for the attainment of this Basin Plan's beneficial uses and water quality objectives (see Chapter 2, "Beneficial Uses," and Chapter 3, "Water Quality Objectives"). In addition, the control measures must be consistent with State Board and Regional Board plans, policies, agreements, prohibitions, guidance and other restrictions and requirements. The most significant Regional Board

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policies are described in Chapter 6, "Plans and Policies."

To prevent water quality problems, waste discharge restrictions are often used. The waste discharge restrictions can be implemented through Water Quality Certification, National Pollutant Discharge Elimination System (NPDES) permits, waste discharge requirements/permits (WDRs), discharge prohibitions, enforcement actions, special designations, and/or "Best Management Practices" (BMPs). Generally, WDRs and NPDES permits are used to regulate point sources of waste, with BMPs used to control nonpoint sources of waste.

Water Quality Certification. Clean Water Act Section 401 Water Quality Certification (Water Quality Certification) gives the Regional Board extremely broad authority to review proposed activities in and/or affecting the Region's waters. The Regional Board can then recommend to the State Board that it grant, deny, or condition certification of federal permits or licenses that may result in a discharge to "waters of the United States."

National Pollutant Discharge Elimination System (NPDES). NPDES permits are issued to regulate discharges of waste to "waters of the nation" including discharges of storm water from urban separate storm sewer systems and certain categories of industrial activity. Waters of the nation are surface waters such as rivers, lakes, bays, estuaries, oceans, etc. The permits are authorized by Section 402 of the federal Clean Water Act and Section 13370 of the California Water Code. The permit content and the issuance process are contained in the Code of Federal Regulations (40 CFR Part 122) and Chapter 9 of the California Code of Regulations. Regional Water Boards are authorized to take a variety of enforcement actions to obtain compliance with a NPDES permit. Enforcement may be only a simple order requiring the discharger to take corrective action to comply with the terms of its permit or may be an order prescribing civil monetary penalties.

NPDES permits are required to prescribe conditions of discharge which will ensure protection of beneficial uses of the receiving water as described in this Basin Plan, water quality control plans adopted by the State Water Board for inland surface waters, enclosed

bays and estuaries, the ocean, and water quality control policies adopted by the State Water Board for specific types of discharges or uses of waste water.

In addition to regulating discharges of waste water to surface waters, NPDES permits also require municipal sewage treatment systems to conduct pretreatment programs if their design capacity is greater than 5 million gallons per day. Smaller municipal treatment systems may be required to conduct pretreatment programs if there are significant industrial users of their systems. The pretreatment programs must comply with the federal regulations at 40 CFR Part 403.

The U.S. Environmental Protection Agency has approved the State's program to regulate discharges of waste water to "waters of the nation." The State, through the Regional Water Boards, issues the NPDES permits, reviews discharger self-monitoring reports, performs independent compliance checking, and takes enforcement actions as needed.

Waste Discharge Requirements (WDRs). The California Water Code authorizes Regional Water Boards to regulate discharges to land to protect water quality. Regional Water Boards issue WDRs in accordance with Section 13263 of the California Water Code. Regional Water Boards are authorized to review WDRs periodically. Regional Water Boards issue WDRs, review self-monitoring reports submitted by the discharger, perform independent compliance checking, and take necessary enforcement action. The California Water Code authorizes the Regional Water Boards to issue enforcement actions (see below) ranging from orders requiring relatively simple corrective action to monetary penalties in order to obtain compliance with WDRs.

Waivers of WDRs. Regional Water Boards may waive issuance of WDRs pursuant to CA Water Code § 13269 if the Regional Water Board determines that such waiver is not against the public interest. The requirement to submit a Report of Waste Discharge can also be waived. WDRs can be waived for a specific discharge or types of discharges. A waiver of WDRs is conditional and may be terminated at any time by the Regional Board. Regional Water Boards may delegate their authority to waive WDRs to the Regional Water Board Executive Officer in

accordance with policies adopted by the Regional Water Board and approved by the State Water Board. The Regional Board's general policy regarding waivers is described in Chapter 6, "Plans and Policies."

Prohibitions and Exceptions to Prohibitions. The Regional Board can prohibit specific types of discharges to certain areas (CA Water Code § 13243). These discharge prohibitions may be revised, rescinded, or adopted as necessary. Discharge prohibitions are described in the "Waste Discharge Prohibitions" section of this Chapter. For certain circumstances, the Regional Board will allow exceptions to some of these prohibitions. Prohibition exceptions are also described in the "Waste Discharge Prohibitions" section of this Chapter.

Enforcement Actions. To facilitate remediation of water quality problems, or in instances where waste discharge restrictions or other provisions of this Basin Plan are violated, the Regional Board can use different types of enforcement measures. These measures can include:

- A **Notice of Violation** or NOV is a letter formally advising a discharger in noncompliance that additional enforcement actions may be necessary if appropriate corrective actions are not taken.
- A **Time Schedule Order** or TSO (CA Water Code § 13300) is a time schedule for specific actions a discharger shall take to correct or prevent violations of requirements. A TSO is issued by the Regional Board for situations in which the Board is reasonably confident that the problem will be corrected.
- A **Cleanup and Abatement Order** or CAO (CA Water Code § 13304) is an order requiring a discharger to clean up a waste or abate its effects or, in the case of a threatened pollution or nuisance, take other necessary remedial action. A CAO can be issued by the Regional Board or by the Regional Board Executive Officer for situations when immediate action is needed on an urgent problem from regulated or unregulated discharges which are creating or threatening to create a condition of pollution or nuisance.
- A **Cease and Desist Order** or C&D (CA Water

Code § 13301) is an order requiring a discharge to comply with WDRs or prohibitions according to a time schedule, or if the violation is threatening, to take appropriate remedial or preventative action. A C&D is issued by the Regional Board when violations of requirements or prohibitions are threatened, are occurring, or have occurred and probably will continue in the future. Issuance of a C&D requires a public hearing.

Monetary liabilities or fines (**administrative civil liabilities** or ACL) may also be imposed administratively by the Regional Board. Under certain circumstances, enforcement actions are referred to the State Attorney General or District Attorney.

Special Designations. Some water bodies have special designations and related narrative discharge restrictions. Examples of special designations are Outstanding National Resource Water, Sole-source Aquifer, Wild and Scenic River, and Water Quality Limited Segment. Applicable special designations and discharge restrictions are described the "Resources Management and Restoration" section of this Chapter.

Compliance Schedules. The Porter-Cologne Act (CA Water Code § 13242[b]) requires a Basin Plan's program of implementation for achieving water quality objectives to include a "time schedule for the actions to be taken." Because of the lack of ambient water quality monitoring data for most of the water bodies of the Lahontan Region (see Chapter 7), it is not possible to state whether or not these waters are in achievement of all water quality objectives, or to set compliance schedules for achievement. The Regional Board periodically reviews available information on attainment of objectives and support of beneficial uses as part of the Water Quality Assessment (ongoing), Section 305(b) reporting (every two years), and Triennial Review (every three years) processes. These reviews may result in Basin Plan amendments and/or the issuance of new or revised discharge permits which will include specific compliance schedules for particular dischargers or for all discharges affecting particular water bodies. The Regional Board is also required to prioritize impaired water bodies listed as "Water Quality Limited" under Section 303(d) of the Clean Water Act for the development of "Total Maximum Daily Loads" (TMDLs) of pollutants to be used in setting wasteload

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allocations for dischargers, in order to ensure attainment of standards.

The 1975 Basin Plans included recommendations that specific studies be carried out by specific dates on needs for community wastewater collection and treatment facilities in certain areas of the Lahontan Region. These plans also recommended that some communities construct specific facilities by given dates. Most of these schedules were not met. Because expected year-to-year changes in availability of and priorities for funding will ensure that long term schedules are unrealistic, this Basin Plan does not include such recommendations. Priorities are set on a short-term basis for studies through the State Board's use of the Clean Water Strategy ranking system in various grant programs, and for facilities construction through the State Board Division of Clean Water Programs needs assessment process for loans and grants. Once funding is allocated, completion schedules are set through the contract process.

Some of the water quality control programs for the Lahontan Region do have specific compliance deadlines, which are discussed later in this Basin Plan. For example, the control measures for the Lake Tahoe Basin which are discussed in Chapter 5 are to be implemented over a 20-year period (through 2007) to ensure attainment of objectives. Some of the waste discharge prohibitions discussed later in this Chapter also include specific compliance dates.

The Regional Board maintains discharge permits (WDRs and NPDES permits) for point sources, each of which includes its own compliance schedule. Waste discharge permits for construction projects generally require implementation of Best Management Practices during and immediately after construction; long-term maintenance of permanent BMPs is expected. Regional Board enforcement orders for specific problems also include compliance schedules.

Innovative Technology and Demonstration Projects. The Regional Board occasionally receives proposals for the use of innovative technology, either as part of projects or activities which it regulates, or as a water quality mitigation measure. Examples include the use of bacteria as ice nucleating agents for snowmaking at ski areas, and bioremediation

technology for cleanup of toxic substance leaks and spills in ground water. Regional Board staff will evaluate such proposals on a case-by-case basis in relation to applicable water quality standards, discharge prohibitions, effluent limitations, and the risk of adverse water quality impacts from the specific technology. (Risk assessment is discussed in the "Spills, Leaks, Complaint Investigations, and Cleanups" section of this Chapter.) Because of the high resource value and extreme sensitivity of some of the waters of the Lahontan Region, some types of demonstration projects using new technology should be carried out within other watersheds.

Interstate Issues. The Lahontan Region includes most of California's common boundary with Nevada, and a small common boundary with Oregon. There are a number of interstate lakes, streams, and ground water basins. Section 518 of the federal Clean Water Act allows Indian tribes to apply to the USEPA to be treated as states for purposes of setting and implementing water quality standards under Sections 303 and 401 of the Act. As of 1993, no tribes within the Lahontan Region had been granted such status.

Historically, interstate water quantity issues have been of greater concern than water quality issues. (See the discussion of water quantity issues in the "Resources Management" section of this Chapter). However, the requirement for efforts by both California and Nevada to protect Lake Tahoe led to the development of the bi-state Tahoe Regional Planning Agency and a bi-state *Water Quality Management Plan for the Lake Tahoe Region* under Section 208 of the Clean Water Act (see Chapter 5). Impacts of ground water pumping in Nevada on supplies in Death Valley, and impacts of radioactivity from the Nevada Test Site on Death Valley ground water quality are also of concern.

In both planning and regulatory activities for interstate waters, Regional Board staff considers the applicable water quality standards of the other state. Regional Board staff request the opportunity to review and comment on revisions of other states water quality plans for waters shared with the Lahontan Region, and provides these states with similar opportunities to comment on Basin Plan revisions. If Regional Board Basin Plan amendments or waste discharge permits appear to create a possibility of conflict with another

state's standards, Regional Board staff consults with water quality staff of the other state to attempt to resolve the conflict. Because most water quality objectives for Lahontan Region waters are based on historical water quality and nondegradation considerations, water quality permits which ensure compliance with California standards generally should be adequate to prevent violation of another state's standards.

Nonpoint Source Program. Nonpoint sources of pollution are generally defined as sources which are diffuse and/or not subject to regulation under the federal National Pollutant Discharge Elimination System (for surface water discharges). Nonpoint sources include agriculture, grazing, silviculture, abandoned mines, construction, stormwater runoff, etc. Nonpoint sources have been identified as a major cause of water pollution in California according to the State Board's 1990 *Water Quality Assessment* report and 1988 *Nonpoint Source Problem Inventory for Surface Waters*.

The federal Clean Water Act (CWA) is the principal federal water quality protection statute. For point source discharges to surface waters, the CWA establishes a permit system. However, nonpoint sources are exempt from federal permitting requirements, as are discharges to ground water. The CWA was amended in 1987 to include a new Section 319 entitled "Nonpoint Source Management Programs." Section 319 requires states to develop Assessment Reports and Management Programs describing the states' nonpoint source problems. The State Board's November 1988 *Nonpoint Source Problem Inventory for Surface Waters* and *Nonpoint Source Management Plan* respond to this requirement.

The State Board's *Nonpoint Source Management Plan* relies on a three-tiered management approach to address nonpoint source problems. The options or tiers are presented in order of increasing stringency. In general, the least stringent option that successfully protects or restores water quality will be employed, with more stringent measures considered if timely improvements in beneficial use protection are not achieved. The three tiers are as follows:

1. Voluntary Implementation of Best Management Practices (BMPs). Property

owners or managers may voluntarily implement BMPs. Implementation could occur for economic reasons and/or through awareness of environmental benefits. (Best Management Practices are described below).

- 2. Regulatory-Based Encouragement of Best Management Practices.** Although the Porter-Cologne Act constrains Regional Boards from specifying the manner of compliance with water quality standards, there are two ways in which Regional Boards can use their regulatory authorities to encourage implementation of BMPs. First, the Regional Board may encourage BMPs by waiving adoption of waste discharge requirements on condition that dischargers comply with Best Management Practices. Alternatively, the Regional Board may enforce BMPs indirectly by entering into management agency agreements (MAAs) with other agencies which have the authority to enforce BMPs. The Regional Board will generally refrain from imposing effluent requirements on dischargers who are implementing BMPs in accordance with a waiver of waste discharge requirements, an approved MAA, or other State or Regional Board formal action.
- 3. Effluent Limitations.** The Regional Board can adopt and enforce requirements on the nature of any proposed or existing waste discharge, including discharges from nonpoint sources. Although the Regional Board is precluded from specifying the manner of compliance with waste discharge limitations, in appropriate cases, limitations may be set at a level which, in practice, requires implementation of BMPs.

Not all of the categories of nonpoint source pollution follow this three-tiered approach. For example, silvicultural activities on non-federal lands are administered by the California Department of Forestry and Fire Protection (CDF). The State Board has entered into a Management Agency Agreement with CDF which allows the Regional Boards to review and inspect timber harvest plans and operations for implementation of BMPs for protection of water quality.

The Regional Board approach to addressing or regulating categories of nonpoint source pollution is

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discussed in various sections throughout this Chapter.

Best Management Practices. Property owners, managers or other dischargers may implement “Best Management Practices” (BMPs) to protect water quality. The term “Best Management Practices” used in reference to control measures for nonpoint source water pollutants is analogous to the terms “Best Available Technology/Best Control Technology” (BAT/BCT) used for control of point source pollutants. The USEPA (40 CFR § 103.2[m]) defines BMPs as follows:

“Methods, measures, or practices selected by an agency to meet its nonpoint source control needs. BMPs include, but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during and after pollution producing activities to reduce or eliminate the introduction of pollutants into receiving waters.”

USEPA regulations (40 CFR § 130.6 [b][4][i]) provide that Basin Plans:

“shall describe the regulatory and nonregulatory programs, activities, and BMPs which the agency has selected as the means to control nonpoint source pollution where necessary to protect or achieve approved water uses. Economic, institutional, and technical factors shall be considered in a continuing process of identifying control needs and evaluating and modifying the BMPs as necessary to achieve water quality goals.”

BMPs fall into two general categories:

- **Source controls** which prevent a discharge or threatened discharge. These may include measures such as recycling of used motor oil, fencing streambanks to prevent livestock entry, fertilizer management, street cleaning, revegetation and other erosion controls, and limits on total impervious surface coverage. Because the effectiveness of treatment BMPs is often uncertain, source control is generally preferable to treatment. It is also often less expensive.
- **Treatment controls** which remove pollutants from stormwater before it reaches surface or

ground waters. These include infiltration facilities, oil/water separators, and constructed wetlands.

BMPs for development projects can be applied both to new project construction, and, through “retrofitting,” to existing structures, roads, parking lots, and similar facilities. It may be possible to carry out an areawide retrofit program as part of a local government redevelopment project.

In 1988, the State Board adopted a statewide *Nonpoint Source Management Plan* which relies first upon voluntary implementation of BMPs by land management agencies and private property owners, and second upon regulatory requirements for BMP use at the discretion of the Regional Boards. The use of BMPs is now mandatory under certain types of stormwater NPDES permits (see “Stormwater” section in this Chapter) and in the Lake Tahoe Basin (see Chapter 5).

Several important points about BMPs must be emphasized at the outset:

- BMPs in California are generally certified by the State Board. Certified BMPs for the Lahontan Region include those of the U.S. Forest Service, Pacific Southwest Region (USFS 1979) and the Tahoe Regional Planning Agency (TRPA 1988, Vol. II). The State Board, together with a task force, has developed three BMP handbooks for guidance to holders of municipal, industrial, and construction NPDES stormwater permits (APWA 1993). There are a number of comprehensive BMP handbooks developed by agencies in other states which included practices which may or may not have been certified for use in the Lahontan Region. Non-certified “BMPs” may be proposed as alternative management practices, which will be evaluated by the Regional Board on a case-by-case basis.
- The use of BMPs does **not** necessarily ensure compliance with effluent limitations or with receiving water objectives. Because nonpoint source control has been a priority only since the 1970s, the long-term effectiveness of some BMPs has not yet been documented. Some source control BMPs (e.g., waste motor oil recycling) may be 100 percent effective if implemented properly. Information to date indicates that treatment control

BMPs are **not** 100 percent effective, even if maintained and operated properly. Monitoring and evaluation of BMP effectiveness is an important part of nonpoint source control programs.

- The selection of individual BMPs must take into account specific site conditions (e.g., depth to ground water, quality of runoff, infiltration rates). Not all BMPs are applicable at every location. High ground water levels may preclude the use of runoff infiltration facilities, while steep slopes may limit the use of wet ponds.
- To be effective, most BMPs must be implemented on a long-term basis. Structural BMPs (e.g., wet ponds and infiltration trenches) require periodic maintenance, and may eventually require replacement.
- The “state-of-the-art” for BMP design and implementation is expected to change over time. The State Board's planning process will include periodic review and update of BMP certifications.

To date, the greatest attention has been given to development of BMPs for erosion and stormwater control in connection with construction projects, urban runoff, and timber harvest activities. BMPs are now being developed for control of a number of other nonpoint sources, including range livestock grazing and agricultural runoff.

General information on recommended nonpoint source management practices is provided under different water quality problem categories throughout this Chapter and in Chapter 5 on the Lake Tahoe Basin. For detailed information on the design, implementation, and effectiveness of specific BMPs, the reader should consult the appropriate BMP Handbook for the project type or location.

Specific Types of Activities and Their Related Water Quality Problems, Control Actions, and Time Schedules for the Actions to be Taken

This Plan considers specific types of problem-related activities with their water quality impacts, control actions and time schedules under the twelve categories of:

- 4.1 Waste Discharge Prohibitions
- 4.2 Spills, Leaks, Complaint Investigations, and Cleanups
- 4.3 Stormwater Runoff, Erosion, and Sedimentation
- 4.4 Wastewater—Treatment, Disposal and Reclamation
- 4.5 Solid and Liquid Waste Disposal to Land
- 4.6 Ground Water Protection and Management
- 4.7 Mining, Industry, and Energy Production
- 4.8 Land Development
- 4.9 Resources Management and Restoration
- 4.10 Agriculture
- 4.11 Recreation
- 4.12 Military Installations

General water quality impacts from each category of activities are first described, followed by details specific to the types of activities in each category.